

1-11. (Canceled).

12. (Currently amended) A method for removing emboli from ~~a vessel~~ a region comprising a bifurcation between a common carotid artery, an internal carotid artery and an external carotid artery, the internal carotid artery having a stenosis within the cerebral vasculature, the method comprising:

B, providing a catheter having proximal and distal ends, a lumen extending therethrough, an inflatable, ~~pear-shaped~~ occlusion element disposed on the distal end, ~~a hemostatic port coupled to the lumen~~, and a blood outlet port disposed on the distal end and coupled to the lumen, the occlusion element extending beyond the distal end of the catheter and forming a tapered entrance to the lumen when ~~the occlusion element is~~ expanded;

~~providing a venous return catheter having proximal end with an inlet port, a distal end with an outlet port, and a lumen extending therebetween;~~

providing a wire having a distal end and a balloon located adjacent the distal end;

inserting the distal end of the catheter into the common carotid artery to locate the occlusion element within the common carotid artery at cerebral vasculature to a position proximal to the bifurcation ~~a treatment site~~;

~~inserting the distal end of the venous return catheter into a remote vein;~~

~~coupling the blood outlet port to the inlet port of the venous return catheter;~~

expanding the occlusion element to occlude antegrade flow through the common carotid artery and to induce reversal of flow from the external carotid artery to the internal carotid

~~artery vessel so that the occlusion element forming forms a tapered entrance to the lumen; and~~

while flow is reversed in the external carotid artery, advancing the wire through the catheter to position the balloon in the patient's external carotid artery at a location just distal of the bifurcation;

inflating the balloon to occlude flow from the external carotid artery to the internal carotid artery; and

aspirating ~~causing~~ blood from region of the bifurcation and the internal carotid artery into the lumen of the catheter,

wherein the occlusion element forms a funnel-shape that inhibits aggregation of emboli between a wall of the common carotid artery and the distal end of the catheter, and

aspirating blood from the region of the bifurcation removes substantially all emboli from the region ~~to flow between the blood outlet port and the inlet port of the venous return catheter to induce reverse flow in, and remove emboli from, the vessel.~~

13. (Currently amended) The method of claim 21 ~~12~~ further comprising:

providing a blood filter; and

coupling the blood filter in fluid communication between the blood outlet port and the inlet port of the venous return catheter.

14. (Canceled).

15. (Currently amended) The method of claim 12 further comprising, while aspirating blood from the region ~~causing blood to flow between the blood outlet port and the~~

~~blood inlet port~~, performing an interventional procedure with an interventional instrument inserted through the lumen of the catheter ~~hemostatic port~~.

16-17. (Canceled)

18. (Currently amended) The method of claim 14 wherein advancing the ~~balloon of the wire~~ through the catheter ~~into the patient's external carotid artery~~ comprises advancing the balloon through a separate lumen of the catheter.

19. (Currently amended) The method of claim 21 ~~12~~ further comprising:

providing a roller pump;

engaging the roller pump with the venous return catheter; and

actuating the pump to increase a rate of flow of blood between the blood outlet port and the inlet port.

20. (Currently amended) The method of claim 24 ~~15~~ wherein ~~performing an interventional procedure with an interventional instrument comprises delivering a stent within the vessel and~~ the wire further comprises a resilient wedge, the method further comprising urging the resilient wedge against the stent during removal of the wire and balloon.

21. (New) The method of claim 12 further comprising:

providing a venous return catheter having proximal end with an inlet port, a distal end with an outlet port, and a lumen extending therebetween;

coupling the blood outlet port of the catheter to the inlet port of the venous return catheter; and

inserting the distal end of the venous return catheter into a remote vein,

wherein aspirating blood from the region of the bifurcation and the internal carotid artery into the lumen of the catheter, further comprises causing blood aspirated into the lumen of the catheter to be reinfused to the remote vein via the venous return catheter.

22.(New) The method of claim 21 wherein the aspirating blood from the region of the bifurcation and the internal carotid artery and reinfusing the aspirated blood into the remote vein is caused solely by a pressure differential between the internal carotid artery and the remote vein.

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23.(New) The method of claim 15 wherein performing an interventional procedure with an interventional instrument comprises delivering compressing the stenosis with an angioplasty catheter.

24.(New) The method of claim 15 wherein performing an interventional procedure with an interventional instrument comprises delivering a stent within the stenosis to restore patency to the internal carotid artery.

25.(New) A method for removing emboli from a vessel having a proximal segment that branches into first and second distal segments, the first distal segment having a stenosis and a source of collateral flow, the method comprising:

providing a catheter having proximal and distal ends, a lumen extending therethrough, an inflatable occlusion element disposed on the distal end and a blood outlet port coupled to

the lumen, the occlusion element defining an entrance to the lumen;

providing a venous return catheter having a proximal end with an inlet port, a distal end with an outlet port, and a lumen extending therebetween;

inserting the distal end of the catheter into the proximal segment to locate the occlusion element within the proximal segment at a position proximal to the stenosis;

inserting the distal end of the venous return catheter into a remote vein;

coupling the blood outlet port to the inlet port of the venous return catheter;

expanding the occlusion element to occlude antegrade flow through the proximal segment and to induce reversal of flow from the second segment to the first segment;

communicating a pressure differential between the proximal segment and the remote vein through the lumen of the catheter and the lumen of the venous return catheter to aspirate blood from the proximal segment and induce reversal of flow through at least the first segment; and

reinfusing aspirated blood to the remote vein via the venous return catheter.

26. (New) The method of claim 25 further comprising:
providing a wire having a distal end and a balloon affixed to the distal end;

while flow is reversed in the second segment, advancing the wire through the lumen of the catheter so that the balloon is located in the second segment;

inflating the balloon to occlude flow through the second segment.

27.(New) The method of claim 26 wherein advancing the balloon into the second segment comprises advancing the wire through a separate lumen of the catheter.

28.(New) The method of claim 25 further comprising, while aspirating blood from the proximal segment, performing an interventional procedure with an interventional instrument inserted through the lumen of the catheter.

29.(New) The method of claim 28 wherein performing an interventional procedure with an interventional instrument comprises delivering compressing the stenosis with an angioplasty catheter.

30.(New) The method of claim 28 wherein performing an interventional procedure with an interventional instrument comprises delivering a stent within the stenosis to restore patency to the first distal segment.

31.(New) The method of claim 25 further comprising:
providing a roller pump;
engaging the roller pump with the venous return catheter; and

actuating the pump to augment a rate at which blood is aspirated from the proximal segment and reinfused to the remote vein.

32.(New) The method of claim 25 wherein the inflatable occlusion element is configured to extend beyond the distal end of the catheter and form a tapered entrance to the lumen when expanded, so that the occlusion element forms a funnel-shape that inhibits aggregation of emboli between a wall of the proximal segment and the distal end of the catheter,

wherein aspirating blood from the proximal segment and at least the first segment removes substantially all emboli liberated from the stenosis.
